

The Development, Testing, and Evaluation of  
Three Strategies Designed to Foster  
Effective, Task-Oriented Class Discussions

An Honors Thesis (ID 499)

by

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May 1981

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INTRODUCTION/STATEMENT OF PURPOSE

The ability to initiate and lead productive group discussions is an important, but often under-emphasized, skill that teachers need to possess. Students who participate in such discussions can learn not only from the discussion leader, but from their peers. This research project was designed with the goal of enhancing the development of student discussion skills by creating and testing a series of group discussion strategies for use in the Ball State University course, Biology 199. Biology 199, Honors Symposium in Biology, is a freshman level course for Honors College students and involves the study of genetics and the bioethical issues which emerge when applying knowledge derived from this rapidly expanding science. One objective of the course has been to encourage student development of discussion skills. Thus, the format of the class initially allowed one day per week for small group discussions, which were led by upperclassmen who had completed the course. Unfortunately, the sessions were disappointing in that they consistently developed into one of two situations: (1) Most often the time was spent dealing with routine problems concerning the genetics component of the course; (2) Alternatively, a bioethics discussion would begin with no goal in sight, and anyone caring to air an opinion would do so. This situation usually digressed into a lull in discussion or an overly heated debate. The session ended either with tension caused by a complete lack of agreement or with a quickly reached superficial conclusion, indicative of unexposed aspects of the problem. In all cases there was no sense of direction and little feeling of accomplishment. Eventually the

weekly sessions were terminated due to lack of success. It is in response to the aforementioned problem that this study is addressed: The goal of this study was to develop and test easily used materials for leading task-oriented discussions. In order to obtain the goal, materials--"Introduction to Leading Discussions" and three discussion strategies with accompanying evaluation forms--were developed and tested in Biology 199.

#### LITERATURE REVIEW

A task-oriented discussion is one which is directed toward the solution of a problem. The group's aim is to work toward a specific, well-defined goal. Therefore, the crucial matter upon which the success of a task-oriented discussion hinges is simply an awareness by each group member of the goal, or the problem to be solved. While this may at first sound simplistic, too often a group discusses a topic rather than a solution to a specific problem.

Obviously in a task-oriented discussion the first step is to agree on the problem to be solved. Miles(1959) suggests four points to be considered when determining the discussion topic.

The topic should:

- 1) be realistic.
- 2) not be more complex than the leader can effectively manage.
- 3) involve the discussion participants emotionally.
- 4) not threaten any participant's integrity.

Participants cannot be expected to be enthusiastic about solving a problem that they do not believe could ever arise. Besides realism, emotional involvement tends to generate enthusiasm. Seldom will an emotionless difference in opinion about a set of facts allow a spirited discussion. However, the topic should

not be so emotionally charged that it makes any of the participants feel threatened or excessively uncomfortable.

Once the problem has been identified and defined, the actual discussion may begin. Although not appropriate in every situation, Scheidel and Crowell(1979) have determined one possible sequence of steps for providing a sense of direction to a discussion. First, the information known should be listed. A brainstorming session may follow, during which a wide variety of ideas are suggested. These ideas can be probed for flaws and then either be retained as suggested, changed, or rejected. By this method of selectively discarding ideas, the possible solutions can be reduced to a workable number. Through discussion, a "best solution" may be determined and developed. Finally, the completed solution should be summarized. This period of summarization is of the utmost importance in establishing a sense of accomplishment, because it allows the participants to see that some progress was made. Figure 1 represents a possible discussion sequence.

To facilitate the discussion, a skilled leader is vital. It is not imperative that one person be designated the leader if the leadership functions are assumed by group members; however, joint leadership requires skilled participants. Since this situation seldom occurs, the general rule is to have one person lead the discussion. Characteristics of an effective leader vary; however, the most successful leaders often exhibit some of the following: 1) openness to the ideas of others, 2) competence as seen by group members, 3) sensitivity to what is actually happening in the discussion, 4) understanding

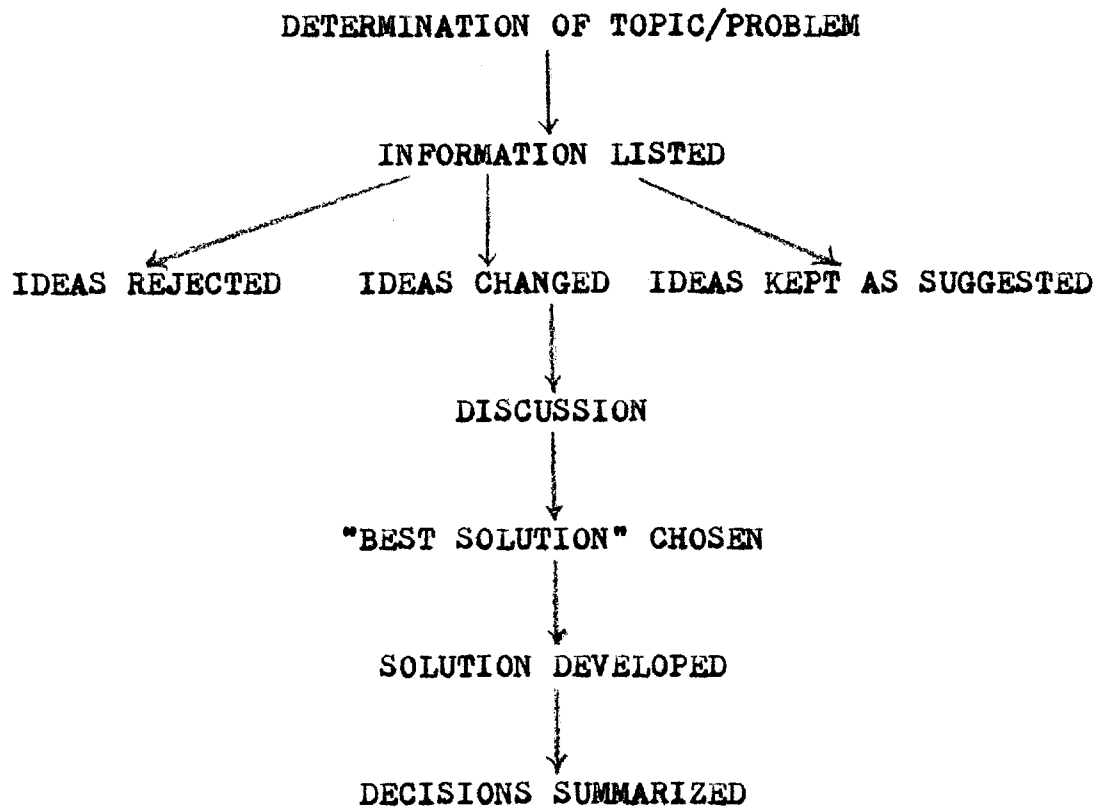


Figure 1. Possible discussion sequence for a task-oriented discussion(Scheidel and Crowell, 1979).

of group dynamics, and 5) knowledgeable of the subject to be discussed. Although effective leaders are important, their best success occurs when they are least involved in the actual discussion. They should become involved only to prevent or eliminate problems with the mechanics of the discussion, and not to influence the group's final solution. Miles(1959) defines the characteristics needed for a leader when he writes, "A leader is a person seen by the group members as helping them fulfill their needs." Although the discussion would be worthless if all members were to agree totally, the leader should try to establish and maintain a sense of harmony, as opposed to hostility. This "cohesiveness" of the group members working together to solve a problem will allow for productivity(Fisher, 1974).

Five categories of leadership functions are identified by Miles(1959). The functions that must be present are as follows: 1) initiation, 2) regulation, 3) information, 4) support, and 5) evaluation. As previously stated, group members may provide any or all of these functions, but the ultimate responsibility for doing so is the leader's. The importance of these functions merits a closer examination of each.

Initiation of the discussion is often one of the most difficult functions of the discussion leader. The first few minutes are crucial in setting the tone of the discussion. Group members must be made comfortable, interested in the problem, and directed toward a solution to the problem. Because the time available is often limited, all of this must take place fairly quickly. One situation, which often occurs in these first minutes, can without fail stifle an effective discussion:

The leader asks a question and when no one responds immediately, feels uneasy and answers his/her own question. When this problem occurs, the leader should either rephrase or repeat the question and then wait for an answer. Eventually someone will respond to avoid an uneasy silence. The discussion leader should also assure that several sides of the issue are heard. A discussion group whose members are in total agreement is probably overlooking important issues. People tend not to express a view if it appears to oppose the popular opinion (Scheidel and Crowell, 1979). The leader may combat this problem by playing the devil's advocate and forcing the group to investigate opposing viewpoints.

Regulation requires that the leader keep the discussion flowing smoothly toward a solution. Individuals within the group may assume certain roles that could jeopardize success and which, therefore, must be swiftly dealt with by the leader. The following are some of the disruptive roles which may be encountered (Burgoon, 1974).

- 1) Blocker- totally negative
- 2) Aggressor- insults others
- 3) Anecdotor- tells irrelevant stories that waste time
- 4) Dominator- prevents opposing views from being heard
- 5) Recognition seeker- speaks just to hear own voice
- 6) Confessor- divulges personal problems
- 7) Special interest pleader- begs for consideration of a "cause"
- 8) Follower- agrees with anything
- 9) Joker

All of these disruptive role behaviors should be minimized. The blocker and the aggressor may cause the group attitude to become negative. Aggression, above all else, must not be tolerated because hostility has no place in a group effort and will discourage others from disagreeing with the aggressor. The dominator and

the follower are opposite sides of a bad coin. Dominators often will hear no opinion but their own and might prevent others from expressing their views. At the same time, the followers often will make no personal statement, but instead usually side with the dominator or the popular opinion. Obviously, some people will be more dominant and others more subdued, and this is acceptable. However, the extremes must be avoided. The special interest pleader is more interested in a particular "cause" than in the wider scope of the total problem. The confessor is looking for counseling, which serves only to lead the group away from a solution. Little direct harm is done by the anecdotor, recognition seeker and joker; however, they do slow down the process, and thus draw momentum from the discussion. In this respect they are harmful. If individuals in the group assume any of these roles, the leader must intervene to restore the group's cohesiveness and efficiency.

Several approaches may be used to counter disruptive group behavior. Miles(1959) and Scheidel and Crowell(1979) suggest tactics for discussion leaders to employ. The dominator poses the greatest problem for most leaders. To deal with the dominator, the leader may quickly make one of the following comments when the dominator pauses for a breath: 1) "Thank you, who can add to what has been said?", or 2) "Who has a different idea?" Most disruptive behavior may be dealt with in the following manner: 1) restate the goal, or 2) ask, "How does this relate to the solution of the problem?" Both of these comments tend to redirect the group's attention to the task. To discuss specific actions to be taken by the leaders in response to certain



problems would be both time-consuming and pointless, because every situation is slightly different. The best approach for discouraging disruptive behavior is preventive: keep the group focused on the goal and the occurrence of problems will be infrequent.

Providing information is the discussion leader's most time-demanding function. The leader has the responsibility to be knowledgeable about the topic. Good preparation is the key to this function.

Support keeps the group moving in a positive direction. Often the group will become discouraged if there are problems in reaching a decision. If there is progress, however slow, the group should be encouraged. In this way one success may keep morale high until another decision can be reached.

Evaluation of the solution must occur. The leader should direct the members to examine their decisions for flaws or loopholes in logic that make the solution inoperative, and if any are found, changes can be made to correct the problem.

While all leaders have their own styles and preferences, some general guidelines may be helpful for the novice (Miles, 1959). The leader should:

- make certain the goals are clear.
- be sensitive to where the discussion is leading.
- encourage co-operation.
- minimize conflict between members.
- allow some conflict.
- try to expose various sides of an issue.
- not reject people, reject ideas.
- not interrupt.
- not lecture.
- not overcontrol the discussion.
- not enter actively into the discussion on one side or the other.

## MATERIALS AND METHODS

Discussion materials should be designed once the basic mechanics of group discussions are understood. "Introduction to Leading Discussions"(Appendix A) was the first item developed. Because the discussion leaders for Biology 199 are college students with a minimum of free-time, instructional materials prepared for them were kept quite brief. While the short introductory statement on techniques of leading discussions cannot be expected to cover the area in great detail, we found that it does make the leader more comfortable and prepared for the first discussion. Very few additional instructions were given to the leaders with the hope that the prepared materials would be easily used and largely self-explanatory.

A consistent pattern was used in formulating the three discussion problems so that the students and leaders would be familiar with the procedure to be followed. The materials were designed to reduce the leader's efforts needed for the functions of initiation and information. This still leaves the functions of regulation, support and evaluation for the leader, but the reduction of necessary functions makes the leader's position less difficult, with respect to the time needed for preparation.

As previously mentioned, the identification of a problem is vital to the success of the discussion. Presenting each discussion group with the same topic allows for the entire class to have a common base, although possibly not a common solution, with respect to a specified problem. The topic must in all cases be one about which a difference in opinion exists, or no true discussion will occur. The presence of "sub-issues" within

the main issue also allows for a more in-depth exploration of the problem.

The first problem developed concerns the race-I.Q. issue. This topic is specifically discussed in class, so little introductory information was provided. For this discussion students are asked to consider from three different points of view, how to close the I.Q. gap between U.S. blacks and whites. This is intended to cause the students to look at the question from a perspective other than their own. After completing their own response forms(Appendix B-1), the students discuss the issue, attempting to reach a consensus on the various decisions they must make. The leader is provided a separate response form (Appendix B-2) upon which is listed several additional questions. The questions preceded by numbers are vital to the discussion and should be raised. The questions preceded by letters, however, are to be used at the leader's discretion. They introduce additional facets to the issue and may enliven the discussion, but are not vital to the goal of solving the problem.

The second discussion concerns genetic counseling. The topic and discussion outline were developed by Dr. Jon Hendrix, Professor of Biology at Ball State University. Dr. Hendrix's outline was modified to the format used for the race-I.Q. issue. The procedure is similar to that used in the race-I.Q. discussion, with the exception of a more lengthy preliminary information section to be read before answering the three questions on the response form(Appendix C-1). A supplementary form with additional questions is again provided for the discussion leaders (Appendix C-2).

The final discussion strategy developed involves prenatal screening for neural tube defects. It is arranged like the other strategies, with a student information and question form (Appendix D-1) and a list of extra questions for the leader (Appendix D-2). There is a slight difference in the student information section for this strategy. The neural tube defect information section involves an actual situation (Kolata, 1980), whereas, the other two issues are more hypothetical in nature.

In order to test these materials, an evaluation form was developed and adapted to fit all three discussions (Appendices E-1, 2, and 3). The evaluation is designed to determine the decisions made by the group members, but more importantly it is used to determine the success of the discussion process itself as perceived by the group members. The evaluation forms were given to the students to be completed at the end of each of the discussion periods.

#### DATA AND DISCUSSION

Classroom testing followed the development of the discussion materials. The race-I.Q. discussion was given preliminary testing in Biology 199 during the Spring and Autumn Quarters of 1980, and all three strategies were tested during Winter Quarter, 1980-1981. The evaluation reports for each discussion can be found in Tables 1, 2, and 3.

In addition to the evaluation forms completed by the students, several of the discussion leaders volunteered comments. The majority of leaders suggested that the neural tube defect problem was the most successful in terms of generating discussion

and enthusiasm, while the race-I.Q. teaching strategy was the least successful.

While the discussion leaders thought that the neural tube discussion was most successful, the participants felt that this discussion caused the most difficulty in reaching a consensus. The majority believed, however, that for all three strategies, the discussion moved satisfactorily toward a solution to the problem. (See item 1 in Tables 1, 2, and 3.)

The responses to item #2 (Tables 1, 2, and 3) indicate that in all three discussions the participants were given cause to look at the issue from opposing viewpoints. Responses to item #3 (Tables 1, 2, and 3) suggest that virtually no hostility was present in the discussions. The lack of hostility is perhaps most impressive in the neural tube discussion which exhibited a dramatic diversity of views.

At this point it would be most effective to examine each of the discussion evaluations individually. From Table 1 which deals with the race-I.Q. issue, responses to questions 4 and 6 indicate that a rather widespread difference in opinions was present. Item 6, for example, asks the question, "Which factor do you feel should be manipulated to close the gap?", with the following responses: "0% Heredity, 38.2% Environment, 9.6% Both, and 52.2% Intelligence should not be manipulated." The data from Table 1 may be slightly misleading. While initially there were some differences within any one discussion group, each group tended to reach a consensus. Of course, the aforementioned is a general statement because within a group there was invariably at least one dissenter. The effects of a dissenter can be illus-

Table 1. Evaluation of Race-I.Q. Discussion

Question		Responses	Percent
1. Do you feel the discussion moved satisfactorily toward a solution to the problem?			
	Yes	94	69.1%
	No	33	24.3
	A solution was reached but not through a logical process.	9 <u>136</u>	6.6 <u>100.0</u>
2. Did the questions cause you to look at the problem from a viewpoint other than your own?			
	Yes	113	80.1
	No	28 <u>141</u>	19.9 <u>100.0</u>
3. Were you permitted to express your views without hostility or ridicule from others?			
	Yes	139	98.6
	No	2 <u>141</u>	1.4 <u>100.0</u>
4. What do you believe causes the difference in I.Q. scores between the populations?			
	Heredity	0	0.0
	Environment	53	37.6
	Combination	88 <u>141</u>	62.4 <u>100.0</u>
5. Is this the view you held before the discussion?			
	Yes	115	82.1
	No	2	1.5
	Hadn't formed an opinion before the discussion	23 <u>140</u>	16.4 <u>100.0</u>
6. Which factor do you feel should be manipulated to close the gap?			
	Heredity	0	0.0
	Environment	52	38.2
	Both	13	9.6
	Intelligence should not be manipulated	71 <u>136</u>	52.2 <u>100.0</u>
7. Do you feel the discussion was a profitable use of your time?			
	Yes	95	67.4
	No	23	16.3
	Undecided	23 <u>141</u>	16.3 <u>100.0</u>

Table 2. Evaluation of Genetic Counseling Discussion

Question		Responses	Percent
1.	Do you feel the discussion moved satisfactorily toward a solution to the problem?	Yes 72 92.4%	
	No 3 3.8		
	A solution was reached but not through a logical process	3 3.8	
		<u>78</u> 100.0	
2.	Did the discussion cause you to look at the problem from a viewpoint other than your own?	Yes 72 91.1	
	No 7 8.9		
		<u>79</u> 100.0	
3.	Were you permitted to express your views without hostility or ridicule from others?	Yes 81 100.0	
	No 0 0.0		
		<u>81</u> 100.0	
4.	Would you prefer having a prescriptive genetic counselor rather than one that left the decision up to you?	Yes 4 5.1	
	No 71 89.8		
	Undecided 4 5.1		
		<u>79</u> 100.0	
5.	Rank child, parent and society in the order of priority that you believe a genetic counselor should have. (1-most important, 2-next, and 3-least)	#1 #2 #3	
	Parent	47 75.4% 17 26.6% 0 0%	
	Child	17 26.6% 46 71.9% 1 1.5%	
	Society	0 0% 1 1.3% 77 98.7%	
6.	Should medical records be confidential regardless of circumstance?	Yes 21 29.2	
	No 51 70.8		
		<u>72</u> 100.0	
7.	Did the discussion help you form an opinion on the issue?	Yes 50 63.3	
	No 2 2.5		
	Already had an opinion	27 34.2	
		<u>79</u> 100.0	
8.	Do you feel the discussion was a profitable use of your time?	Yes 70 92.1	
	No 6 7.9		
		<u>76</u> 100.0	

Table 3. Evaluation of Neural Tube Defects Discussion

Question		Responses	Percent
1. Do you feel the discussion moved satisfactorily toward a solution of the problem?	Yes	54	68.4%
	No	20	25.3
	A solution was reached but not through a logical process	5	6.3
		<u>79</u>	<u>100.0</u>
2. Did the discussion cause you to look at the problem from a viewpoint other than your own?	Yes	67	80.7
	No	<u>16</u>	<u>19.3</u>
		83	100.0
3. Were you permitted to express your views without hostility or ridicule from others?	Yes	79	98.8
	No	<u>1</u>	<u>1.2</u>
		80	100.0
4. On which women do you think the AFP screening should be performed?	All pregnant women	45	55.6
	No women	6	7.4
	Women who have had an affected child	5	6.1
	Voluntary--for women desiring the test	<u>25</u>	<u>30.9</u>
		81	100.0
5. Do you think the Spina Bifida Association is unnecessarily slowing the drive to begin a national program of AFP screening?	Yes	37	46.8
	No	<u>42</u>	<u>53.2</u>
		79	100.0
6. Did the discussion help you form an opinion on the issue?	Yes	57	69.5
	No	6	7.3
	Already had an opinion	<u>19</u>	<u>23.2</u>
		72	100.0
7. In your opinion, should a fetus with spina bifida be aborted?	Yes	11	14.1
	No	36	46.2
	Undecided	<u>31</u>	<u>39.7</u>
		78	100.0
8. Do you feel the discussion was a profitable use of your time?	Yes	67	81.7
	No	<u>15</u>	<u>18.3</u>
		82	100.0



trated by a particular situation in which a wave of very negative evaluations was encountered, among what had been generally positive evaluations. Closer examination revealed that practically all of the negative reports came from one of two discussion groups. The leaders of these two groups suggested that a few people were upset about another aspect of the class and this obviously permeated the group and yielded an almost uniformly negative attitude, reflected in negative responses on the evaluation form. Some of the problems surrounding this discussion seem to have arisen because the race-I.Q. issue had been discussed in class before the group discussions were held. The students, we infer, had already formed opinions, so they felt that there was really no need for further discussion.

On the genetic counseling discussion evaluation (Table 2), data from items 4, 5, and 6 indicate that fairly uniform solutions were reached. This was somewhat disconcerting because the topic is one in which some conflict was anticipated. The issue of medical record confidentiality did, however, cause disagreement, and thus, discussion. While the conclusions reached were similar, the discussion did help many individuals (63.3% - Item 7, Table 2) form opinions. One may infer that most of the participants did not come to the discussion with similar preconceived opinions, but that through discussing the issue a consensus was reached.

Responses to items 4, 5, and 7 (Table 3) reveal a wide variety of opinions relative to the discussion of neural tube defects. Diverse opinions should allow for lively discussions

and are probably the cause of the encouraging comments made by the leaders about this particular discussion strategy. The presence of diverse opinions would also indicate that the discussion leaders did not sway the conclusion toward their own viewpoints. Question 4 of Table 3, in its present state, implies that the AFP testing would be mandatory when the question was intended to ask about a voluntary program. This ambiguity was detected by some participants who wrote, "voluntary", as a response. The neural tube discussion, like the genetic counseling discussion, did seem to help the participants form an opinion on the issue.

All three evaluation forms included questions that asked if the discussion was worthwhile, and the response was "yes" by 67.4% for the race-I.Q. discussion, 92.1% for the genetic counseling discussion, and 81.7% for the neural tube defects discussion. (Tables 1, 2. and 3) While the leaders found the neural tube defect discussion most successful, the participants seemed to favor the one concerning genetic counseling. The fact that a conclusion was reached with most of the group members in agreement resulted in a feeling of accomplishment that made the genetic counseling discussion most enjoyable for the students.

#### RECOMMENDATIONS

Most of the changes needed to upgrade the quality of these discussion strategies are relatively minor. One problem mentioned previously concerns Question #4 of the evaluation form found in Appendix E-3. The question should imply that the women selected for inclusion in the AFP screening program would be

given a choice of whether or not to undergo testing.

The group members seem to prefer a short, factual statement of the circumstances surrounding the issue which could be read before beginning the discussion. Such a statement was not included with the race-I.Q. materials because the issue was discussed previously in class. Nonetheless, an introductory statement might have been beneficial for initiating discussion. The race-I.Q. strategy would probably be more successful if used prior to the classroom lecture concerning this issue.

Administrative difficulties forced the discussion groups to meet in areas less than ideal for discussion purposes. The group members need to be able to sit in a circular type arrangement so that everyone may be seen and heard. This simply re-emphasizes the necessity that the group members feel comfortable and experience a sense of "cohesiveness" in order to function at maximum efficiency.

The largest problem with the discussion strategies is that they do not allow for proper evaluation of the conclusion during the final minutes of the discussion. There simply is not enough time. Three possible solutions to the problem exist: 1) reduce the amount of material to be discussed, 2) lengthen the time for discussion, or 3) use two discussion sessions for each strategy.

## CONCLUSIONS

The goal of developing easily used materials for leading task-oriented discussions seems to have been successfully accomplished. The evaluations indicate that the group members

felt that the discussions were worthwhile and moved satisfactorily toward a solution to the problem. Apparently the materials were also successful from the discussion leaders' viewpoint. Although few instructions were given to the leaders, the procedure to be used for discussing each strategy was easily understood and the leaders experienced little stress in their role. The materials helped direct the discussions toward a goal, and thus allowed the group members and leaders to feel a sense of accomplishment when the goal was reached.

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## APPENDIX A

## Introduction To Leading Discussions

A task-oriented discussion is one that is directed toward the solution of a particular problem. This type of discussion provides direction and a sense of accomplishment for the participants. Leading such a discussion takes very different skills than participating in the discussion. The leader's input is not needed for determining the solution to the problem, rather it is needed to keep the discussion task-oriented and thus, working toward a solution. "A group leader is seen by the members he is working with as helping them fulfill their needs." (Miles, 1959) It is not necessary for the leader to do all of the leading; some of the functions may be provided by the group members. The functions that must be present are the following: (1) initiation, (2) regulation, (3) information, (4) support, and (5) evaluation.

Certain roles may develop among the participants that will reduce the group's efficiency. The following are some of the disruptive roles that may appear:

- (1) Blocker-totally negative
- (2) Aggressor-insults others
- (3) Anecdotor-tells irrelevant stories that waste time
- (4) Dominator-allows no opposing views to be heard
- (5) Recognition seeker-speaks just to hear himself talk
- (6) Confessor-seeks counseling for personal problems
- (7) Special interest pleader-concerned only about a "cause"
- (8) Joker

All of these roles should be minimized. The aggressor especially should not be tolerated because, for a discussion to work, the participants must feel comfortable and non-threatened. Some individuals will naturally be more domineering than others. This is fine unless they prevent others from entering the discussion. To stop the dominating person: after the dominator makes a point, the leader may quickly say, "Thank you, who can add to what has been said?" The anecdotor or anyone who gets off the subject will prevent the group from reaching its goal of reaching a solution to the problem. To counter this person, the leader may: (1) restate the goal, or (2) ask the person how what they are saying applies to the solution of the problem.

Here are some additional hints:

- (1) Sometimes ideas must be rejected. It is important that the idea, not the person who suggested it, is rejected for a better idea.
- (2) When feelings enter into the discussion, they should be acknowledged as such, because even the best solution is unworkable if it is offensive.
- (3) Leaders should never answer their own questions, because this will surely stifle discussion. An extended period of silence may seem uncomfortable, but will give the participants time to think. Eventually someone will answer the question to ease the tension.

## APPENDIX B



## RACE-I.Q. DISCUSSION

For discussion purposes, assume that the average 15 point difference in I.Q. scores between Black and White populations really exists. Also assume that the characteristics measured by these tests are actually desired by society, and that society would be improved by closing the gap between the populations. Three contemporary theories attempt to explain the difference in intelligence between the populations: (1) the difference is based solely on environment, (2) the difference is based solely on heredity, and (3) the difference is based on a combination of heredity and environment.

For each view, even though it may disagree with your own, consider what you could do to close the gap. Although the solution may seem unthinkable to you, it may be one proposed by others. Take 10 minutes to write as many solutions as you can. We will discuss your solutions and those of your colleagues in order to share ideas and consequences.

HEREDITY:

ENVIRONMENT:

COMBINATION:

## RACE-I.Q.DISCUSSION

### Suggestions for Discussion Leaders

Allow the students 10 minutes or until they are all finished with the proposed solution sheet. Allow about 20 minutes for discussion. If, however, the discussion is very lively, another 5 minutes may be used. Time must be left at the end to summarize and come to final conclusions, so the students will feel that they have accomplished their goal of solving the problem. Fifteen minutes should be left for summarizing and reaching a consensus. During this time one person should be appointed to record the consensus solution for each viewpoint. More than one solution for each viewpoint may be listed as long as the group members feel that it would help solve the problem. The last task of the discussion will be to attempt to reach one "best" solution to the problem. This should be recorded along with the rationale for choosing this solution.

The following are questions that may help the discussion move toward the goal of task-solving. The questions preceded by letters are entirely optional, and are intended to generate conversation if the discussion seems to be stagnating. The questions preceded by numbers are vital to the discussion and should be asked.

1. If you held the hereditarian viewpoint, how could you improve the genetic make-up of the Black population?

Possible answers: intermarriage, sterilization of "undesirables", sperm banks with high intelligence black donors

(a) How would these changes affect society?

Possible answers: reduce compensatory education, reduce prejudice through a raceless population

(b) Would the programs be voluntary or mandatory? Could they be effective if they were voluntary?

Possible answers: question of constitutionality, enforcement

2. From an environmental viewpoint, how might scores be raised?

Possible answers: Improved nutrition and health care for fetus, neo-nate, and mother, re-evaluation of I.Q. tests, compensatory education, money subsidies, uniform social class, busing

(a) Would help be given to improve the environment of Blacks only, or lower class Whites also?

(b) Would the immense cost be justifiable in terms of results?

(c) Is assistance only to Blacks illegal on grounds of reverse discrimination?

(d) Would middle and upper class Blacks be excluded from the program

- (e) Should free pre-natal medical care be encouraged more strongly? If so, for Blacks only?
3. If differences in the populations with respect to I.Q. are due to a combination of heredity and environment, will you manipulate both factors to raise I.Q.? If not, which ones will be manipulated? What programs could be instituted to raise I.Q. from this viewpoint?

Possible answers: any combination of the previous programs may be suggested. (Watch to see if a program affecting heredity and environment is really proposed.)

- (a) Society generally claims that the difference in I.Q. is due to a combined effect. Does society stress the improvement of both factors?

Possible answers: This is a very crucial point in the discussion. The students should see that although society often claims the gap is caused by a combination of factors, it works to improve only the environmental factor.

4. From your own viewpoint, should heredity be manipulated in order to close the gap?

Possible answers: most will probably say "no"

- (a) (If there is a group consensus with no opposing viewpoints, the group leader should play the devil's advocate to expose another side of the argument.)  
For example, "Doesn't society owe the Black population the advantages of higher I.Q.'s and shouldn't society take any appropriate measures to bring this about?"

## APPENDIX C

## GENETIC COUNSELING DISCUSSION

For discussion purposes, let us assume that you reside in a state which has passed a law mandating genetic counseling for certain individuals. This legislation provides financial remuneration for the cost of genetic counseling for those people who have given birth to a genetically defective child. Assume, furthermore, that you and your spouse have a child with an autosomal recessive genetic disease that will lead to an early death of the child ("early" meaning prior to the twentieth year of the individual's existence). You and your spouse are now seeking genetic counseling from a qualified expert as to the possibility of (a) recurrence risk, and (b) other options available to you when you make your first visit, both of you are separately interviewed for family histories. In developing these family histories, you are asked about occurrences in other family members concerning the genetic defect that your child has. The first problem with which you come into conflict is the problem of confidentiality: How much medical information about members of your family should you share?

In working with the genetic counselor you are concerned that (a) the counselor provide you with the most accurate data concerning your risk, and (b) the counselor allow you to make your own decisions rather than having the decision of the counselor imposed upon you. The counselor can operate in one of two counseling modes -- directive or non-directive, or as some medical professionals prefer to call them -- prescriptive counseling (what I think you ought to do) or non-prescriptive counseling (what are the options available to you and how will you choose among these options?).

The counselor faces a true ethical dilemma when considering justice and duty. On one hand, his duties seem to be to the counselees. However, on a wider scope, the counselor also has a duty to the unborn child of the counselees. Furthermore, the counselor has a duty to society. When thinking about the duties of a genetic counselor (duties to the counselees, to their unborn child, and to society), how would you want your counselor to rank these duties?

Take ten minutes and answer the following questions. After everyone has finished, the group should discuss and reach a consensus for each question.

1. Should you have a legal right to obtain medical histories from family members, even though they are confidential, or must you be satisfied with the information they are willing to volunteer?

2. Should the counselor make recommendations as to the action you should take, thus influencing your decision, or should he/she merely present the facts?

3. Counselors have a responsibility to their clients, to the unborn child, and to society. Often these duties are in conflict. Among the three, who should be considered most important? Rank the three responsibilities in terms of priority, with 1 meaning most important and 3 meaning least important.

\_\_\_\_\_counselees

\_\_\_\_\_unborn child

\_\_\_\_\_society

## GENETIC COUNSELING DISCUSSION

## Suggestions for Discussion Leaders

1. Should you have a legal right to obtain medical histories from family members, even though they are confidential, or must you be satisfied with the information they are willing to volunteer?
2. Should the counselor make recommendations as to the action you should take, thus influencing your decision, or should he merely present the facts?
  - a) What should be done about people who the counselor infers will not be able to understand the situation well enough to make intelligent decisions?
  - b) What educational and personality qualifications should a genetic counselor have?
3. Counselors have a responsibility to the clients, to the unborn child, and to society. Often these duties are in conflict. Who should be considered most important? Rank the three responsibilities in terms of priority.
  - a) One might think that a government funded clinic would be more inclined to consider society first. This might bias the counselor toward recommending abortion. Would this cause you to choose a private counselor rather than a government supported counselor?

## APPENDIX D



## NEURAL TUBE DEFECTS DISCUSSION

In recent months, there has been much discussion concerning a birth defect called spina bifida. This birth defect affects the neural tube, the continuous tube forming the spinal cord and the brain. One form of the defect called anencephaly, affects the brain end of the neural tube. In this case the brain is exposed, resulting in fetal or neo-nate death. The other form of the defect, called spina bifida, affects the spinal cord. There are many variations of spina bifida, as well as a wide difference in the seriousness of the various types. At one extreme is an open spinal cord that is covered by skin. Surgery can repair the damage and the child will have no ill effects. At the other end of the spectrum there are cases in which the spinal cord and nerves protrude through the skin. For these children the damage is most likely to be extensive. In about 20% of open neural tube defects not involving the brain, surgery will correct the problem, resulting in a fairly normal life for the children. The remaining portion of the children who survive may be expected to have any or all of the following: mental retardation, no bowel or bladder control, need for extensive medical and surgical treatment, and some degree of paralysis.

About 2 babies per 1000 in the U.S. have neural tube defects, and for women that have had an affected child previously, the recurrence risk is about 5%. Thus, neural tube defects constitute the most common birth defects encountered in the U.S.

Recently, in Scotland, a procedure to detect spina bifida prenatally has been developed by David Brock. For several years, a neural tube defect screening program has been used successfully in Great Britain. The first step in the screening process is the testing of pregnant women to find the concentration of alphafeto-protein (AFP) in their blood. A high concentration of AFP may indicate an open neural tube, or it may indicate twins or triplets, inaccurate calculation of gestation dates, or a dead fetus. The second step is to repeat the test for those individuals with positive AFP results. The second test eliminates about half of those previously testing positive. For those women testing positive on the second test an ultrasound scan is performed to elimi-

nate women with twins or triplets, fetal death, or incorrect gestation dates. For those still testing positive, amniocentesis is performed to check for AFP in the amniotic fluid. Positive results at this point indicate a fetus with spina bifida or anencephaly.

Attempts to begin screening programs in this country have been blocked largely by the efforts of Carol Buchholz of the Spina Bifida Association of America. She is concerned about quality control of the laboratories doing testing, uniform availability of testing and counseling, and pressure on parents to abort affected fetuses. She is also concerned that women know that some affected children grow up to be happy, functional individuals.

Several experimental screening programs have been implemented with apparent success in the United States. Conflicts have arisen from attempts to begin screening on a larger scale. The values and ethical differences are evident in quotes from persons on both sides of the issue of beginning a national screening program for neural tube defects. Says Mark Evans of the University of Chicago, "Many prospective parents would rather abort a normal fetus than miss detecting one with spina bifida. Most obstetricians would agree with me but would not say it publicly." On the other hand, Mrs. Buchholz has said, "I don't think the birth of my child was a tragedy. These children think of themselves as having a future. I don't think physicians think of the children as going to school, playing, having a normal life. They only see them as sick children." With groups blocking their attempts, those trying to implement screening programs have become impatient with the sluggishness of obtaining permission to do so.

For discussion purposes, assume you are on a panel mandated to make decisions about a national program for the screening of neural tube defects. You will be given ten minutes to decide on a personal stance for the following four questions. Then as a group, discuss your individual ideas and come to a consensus on each question.

1. Which pregnant women should be screened- all women or those women who have had an affected child?
2. For the pregnant women selected to be screened, will the tests be mandatory or voluntary?
3. Should the birth of defective individuals be discouraged?
4. Who should pay for the screening test- pregnant mother or society?

## NEURAL TUBE DEFECTS DISCUSSION

## Suggestions for Discussion Leaders

1. Which pregnant women should be screened- all women or only women who have had an affected child?
2. For the pregnant women selected to be screened, will the tests be mandatory or voluntary?
  - a) If mandatory, what will be done about those who oppose it?
  - b) If voluntary, would participation be high?
  - c) Should the tests be performed if the mother wouldn't consider aborting a defective fetus?
  - d) To encourage participation, in a voluntary program, should financial assistance be provided? If so, by whom?
  - e) Blue Cross has announced that it would cover the cost of AFP screening, so it would be expected that most insurance companies would follow suit. Should this fact influence the implementation of a national program?
3. Should the birth of defective individuals be discouraged?
  - a) Should the advice to abort or not abort be dependent on the seriousness of the defect?(e.g., anencephaly as opposed to spina bifida)
  - b) Should a family's financial state or ability to provide care for a child with a neural tube defect be considered in making a decision whether or not to abort?
  - c) Who will pay for the child's care if the mother won't abort?
  - d) If abortion is optional, will genetic counseling be provided if the fetus is found to have a defect?
  - e) Should financial assistance be provided for women to abort if their fetus is found to have a neural tube defect?
4. Who should pay for the cost of screening open neural tube defects- the pregnant mother or society?

## APPENDIX E

## RACE-I.Q. DISCUSSION EVALUATION

Either check the appropriate response, or if you prefer, reply in the space provided. Do not sign your name.

1. Do you feel the discussion moved satisfactorily toward a solution to the problem?  
☐yes    ☐no    ☐A solution was reached but not through a logical process.
2. Did the questions cause you to look at the problem from a viewpoint other than your own?  
☐yes    ☐no
3. Were you permitted to express your views without hostility or ridicule from others?  
☐yes    ☐no
4. What do you believe causes the differences in I.Q. scores between the two populations?  
☐heredity    ☐environment    ☐combination
5. Is this the view you held before the discussion?  
☐yes    ☐no    ☐Hadn't formed an opinion before the discussion.
6. Which factors do you feel should be manipulated to close the I.Q. gap?  
☐heredity    ☐environment    ☐both  
☐intelligence should not be manipulated
7. Do you feel the discussion was a profitable use of your time?  
☐yes    ☐no    ☐undecided
8. Name of your discussion leader:

COMMENTS AND SUGGESTIONS:

## GENETIC COUNSELING DISCUSSION EVALUATION

Either check the appropriate response, or if you prefer, reply in the space provided. Do not sign your name.

1. Do you feel the discussion moved satisfactorily toward a solution the problem?  
☐yes      ☐no      ☐A solution was reached but not through a logical process.
2. Did the discussion cause you to look at the problem from a viewpoint other than your own?  
☐yes      ☐no
3. Were you permitted to express your views without hostility or ridicule from others?  
☐yes      ☐no
4. Would you prefer having a prescriptive genetic counselor?  
☐yes      ☐no      ☐undecided
5. Rank child, parent and society in the order of priority that you believe a genetic counselor should have.  

<input type="checkbox"/> parent	1- most important
<input type="checkbox"/> unborn child	2- next most important
<input type="checkbox"/> society	3- least important
6. Should medical records be confidential regardless of circumstance?  
☐yes      ☐no
7. Do you feel the discussion was a profitable use of your time?  
☐yes      ☐no
8. Did the discussion help you form an opinion on the issue?  
☐yes      ☐no      ☐already had an opinion
9. Name of your discussion leader:

COMMENTS AND SUGGESTIONS:

## NEURAL TUBE DEFECTS DISCUSSION EVALUATION

Either check the appropriate response, or if you prefer, reply in the space provided. Do not sign your name.

1. Do you feel the discussion moved satisfactorily toward a solution to the problem?  
☐yes      ☐no      ☐A solution was reached, but not through a logical process.
2. Did the discussion cause you to look at the problem from a viewpoint other than your own?  
☐yes      ☐no
3. Were you permitted to express your views without hostility or ridicule from others?  
☐yes      ☐no
4. On which women do you think the AFP screening should be performed?  
☐all pregnant women      ☐no women  
☐those pregnant women who have had an affected child
5. Do you think the Spina Bifida Association is unnecessarily slowing the drive to begin a national program of AFP screening?  
☐yes      ☐no
6. Did the discussion help you form an opinion on the issue?  
☐yes      ☐no
7. In your opinion, should a fetus with spina bifida be aborted?  
☐yes      ☐no      ☐undecided
8. Do you feel the discussion was a profitable use of your time?  
☐yes      ☐no
9. Name of your discussion leader:

COMMENTS AND SUGGESTIONS: